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US-USSR Research Cutoff: The Other Side's View

With the Reagan Administration threatening further cuts in the already tattered system of Soviet-American scientific and technical exchanges, SGR thought it might be useful to hear what the Soviets have to say on this subject and related matters. So, with a tape-recorder on the table, SGR Editor Greenberg spent an hour on January 25 with the senior Soviet science official resident in the US, Igor Makarov, Science Counselor of the Soviet Embassy in Washington. Makarov, 44, an avionics graduate of the Moscow Aviation Institute, is on his third tour of duty in the US, having spent a total of 10 years here since 1967. The interview was held at SGR's request. The following excerpts, edited by SGR for clarity and brevity, contain the major points of the discussion:

SGR: Why do you want to continue the scientific and technological exchange program?

Makarov: It's useful, mostly from a political point of view, as one of those channels of communication... which are created in order to understand each other better.

SGR: Is it mainly political, or does it also have scientific and technical value?

Makarov: There is no way to ignore the political implications. The agreements were signed during the Nixon Administration and were one of the aspects [of detente]. But there is no denial that they have very serious and substantial scientific and technological merits. And I would like to stress and point out that it is not only for the Soviet Union but for the United States, too. Unfortunately, there has recently been a lot of commotion about "one-way" exchanges and advantages which the Soviet Union is getting. Nevertheless, knowledgeable people in this country side with me in stating that American science and technology got a lot of useful things since the first agreements were signed 10 years ago. The United States is a very pragmatic country. There are certain good samaritans here, but this country doesn't do these kinds of things out of pure humanitarian reasons. American science is getting something.

SGR: Could you be specific?

Makarov: I can state my own conclusions about what's useful for this country, but take into account hearings of the [House] Committee on Science and Technology in 1980 reviewing the exchanges... As far as the Soviet Union was concerned, it was very authoritatively stated that American science and technology got something and got very useful and practical results...

SGR: Doesn't the openness of the American scientific community provide an access that isn't possible for foreigners in the Soviet Union?

Makarov: There's no denial that the scientific media make scientific and technical results in the US very accessible and open. They are used everywhere, not just by the Soviet Union, and I'd like to point out that a lot of Soviet technical literature are being received here and are being translated. You take any kind of well-established scientific organization in this country and they are closely reviewing the progress and trends in their respective fields of Soviet science and technology. These kinds of communication channels are very important, but sometimes it's necessary for researchers to see

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In Brief

Career civil servants in the research agencies have tended to be quiet about the Reagan-Stockman mayhem on R&D, but not so Edwin E. Kintner, longtime chief of DoE's fusion-research program. In a letter of resignation, effective last month, he accused OMB and the White House science office of "malicious meddling," and charged that "Emphasis now is more on procedure rather than product...on preventing problems at the expense of achievement, on obtaining influence without responsibility."

Meanwhile, White House Science Adviser George A. Keyworth, less than a year in office, is proceeding along the well-trod path of claiming the Administration's R&D story isn't coming across accurately. In an address in St. Louis on January 21, he told a Monsanto audience that "related to the government support of appropriate R&D...there has been no shortage of misinformation and misinterpretation of our position and the facts."

Japan raised its R&D spending by nearly 15 percent in 1980, to a total of $24 billion. The US figure for the same year—federal and private—was about $60 billion. The two were close, however, in percent of GNP devoted to R&D—2.19 percent for Japan, 2.28 percent for the US—but while we spent about $15 billion on military R&D, Japan spent a negligible amount.

...No-Shows at Meetings? "No Denying" It, But

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for themselves, rather than just read certain papers. That's why the idea of having some kind of formalized agreements attracted interest in both countries...

SGR: A common complaint on the American side is that Soviet scientists often don't show up at meetings that they said they'd attend, that there's a consistent pattern to this.

Makarov: There is no denying that. We are living in a very difficult world. We're not as friendly as we'd like to be. So, take into account the different social and political structures and take into account that in a way we are political opponents...I'd like to point out that the same is being done in this country, too. More than that, you can easily remember the very uncommon fact that in early 1980, at a number of international—I stress international—conferences which Soviet scientists were supposed to attend, the American government kept those Soviet scientists out. There's no denial that we're rather selective from the point of view of what things we'd like to discuss openly with American colleagues and what things we'd like to keep for ourselves. But it's not unique as far we're concerned. American science has been doing this all the way from the very beginning. One of the problems of truly meaningful scientific exchange is that from time to time we encounter and have to overcome certain suspicions, certain mistrusts in order to create a more benign atmosphere. That's why, again, from a political point of view, you can't get away from it. The political implications of the exchange programs are extremely important. That's why I insist we would like to continue them...to create more constructive attitudes in a very, very complicated world.

Influencing Soviet Policy

SGR: There's a school of thought in the American scientific community and among some politicians that believes we can have some political influence on Soviet decision-making through the exchange process. Do you feel there's anything to that?

Makarov: I run across articles in American papers to that effect. Certain people like to create an impression of a lack of political stability in the Soviet Union, and [the impression that] if the American side will have certain channels open to the Soviet Union, the American side is going to have certain additional leverage on the philosophy of thinking in the Soviet Union. I would like to stress that it's one of the fallacies which need to be corrected. More than 60 years have passed since 1917. A whole generation of Soviet scientists have been created—people who were born under the Soviet system, people who have a certain ideological upbringing. And just to express or think that you can turn or influence developments in my country is a kind of a wishful thinking. As you know, and I don't want to deny it, we have a certain insignificant amount of people who are not conformists.

The Dissidents

SGR: The so-called dissidents?

Makarov: Yes, you call them dissidents. But it's a phenomena that I'd say is rather commonplace in a way that each society has a certain segment of people who behave like mavericks. And some of these people are either disillusioned due to certain things which happened to them personally and would like to express themselves by using such opportunities. More than that, I'd like to point out that a certain part of them are aware that this theme is extremely popular in the West and are playing upon a certain popular mood in the United States in order to gain the popularity and status of dissident in their own country. But believe me, in most cases, they are using it to further their personal things.

SGR: Would you include Sakharov in this group?

Makarov: In a way, yes. Just take the last example, when he went to such a length and went on a hunger strike in order just to influence a very insignificant decision [for his step-daughter-in-law to receive an exit visa to join her husband in the US] from the scientific point of view. You see, he just...used his status as a very famous and very authoritative scientist. And nobody is going to pay attention if such an act had been done by

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...Soviets Scientists "Treated with Respect"

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somebody else. So, to a certain extent, I do believe that Sakharov was just using his status, not to attract attention to the conditions he's living in—although these conditions, by Soviet standards are not bad, I'd say. But he was just engaging in unbridled activities which are, by the way, punishable under Soviet law. So, frankly speaking, it's a degree of tolerance on the part of our authorities...that he's not punished. I don't know why.

SGR: Does that suggest that the view held by some Americans is correct, that the scientific community does occupy a special place in the Soviet Union and it does have a fair amount of political independence? If Sakharov has been someone of less note, he might have been treated more harshly.

Makarov: Yes, I can agree with you that the scientists in my country are treated with respect. The future of the development of the economy, the well-being of the Soviet people, are dependent on science and technology. From the inception of the Soviet state, scientists were enjoying a kind of special privilege. They were like beloved children whose mother [tolerated] certain things that hadn't been approved, [but] Soviet science is part and parcel of the whole infra-structure of our society. And as such, it has roots in our political system. It has the trust of the government, of the Communist Party... It's true. What our scientists are doing, they're doing with the knowledge and good backing, with agreement and concordance...Just to think that it's a kind of a special strata which can be influenced, or which is a kind of, say, a potential fifth column, again, it's wishful thinking. I strongly recommend against entertaining [thoughts] along these lines.

Anti-Semitism

SGR: The issue of anti-semitism concerning Soviet scientists has been raised many times in this country. In particular, it is said that mathematicians with clearly identifiable Jewish names have virtually disappeared from Soviet journals. Could you discuss that?

Makarov: ...Due to the nature of the relationship between our two states, we allowed the emigration of people with a solid Jewish background...And that's why a certain number of people of Jewish extraction just emigrated. On the other hand, I would not like you to have an impression that we don't have renowned scientists, even among the members of the prestigious Academy of Sciences, who are Jewish. What I would like to point out is that they are not enjoying special privileges. They are treated like everybody else. To be sincere, yes, there is a certain uneasiness on the part of the authorities and their attitudes can be understood. For example, the state is picking up the tab to teach some youngster to get a degree and all of a sudden this individual expresses a desire to emigrate. Well, we spend a certain amount of money and time for educating such people, and sometimes we're not ready to grant, just nonchalantly, an exit visa and say, "You can go," because he's a scientist. We need scientists. Secondly, some people are engaged in some kind of work related to the interest of national security. Certain obstacles are in the way, too. I don't want to create an impression that the scientists of Jewish origin are ostracized. There are well-known [Jewish] scientists enjoying esteem, respect, and it will be extremely presumptuous to treat the whole matter from the wholly biased point of view. Again, it's rather complicated, but we have to treat it very cautiously...Yes, I can agree, [there are] some examples due to [the] individual natures of certain people, related from the business point of view, working in certain institutions, in certain organizations, in certain difficulties. But why just point to Jewish scientists? I know of lots of examples where a very great enmity was going on, not between Jewish scientists on one hand and Russian scientists on the other, but between scientists of the Tartar extraction and Russian scientists. So, it is a very complicated thing and just to try to dissect all other nationalities and to thrust your attention to the fate of the Jewish scientists is not sincere.

Jewish Students

SGR: In view of the situation you described, is there some increasing reluctance on the part of the authorities to admit Jewish students to scientific and technical training?

Makarov: I don't want to create an impression that there was a certain directive or regulations to this effect. No, vehemently no. But again, maybe certain administrators just on their own—there's no denial about this, sorry—on their own just issue very badly formulated impressions that, well, for them, they're better just to treat the whole thing cautiously. So, as I heard, unfortunately, there were certain examples of this bad influence. But believe me, those things are very sensitive and those people are being treated and criticized and admonished and punished, because, again, we are not fools. We understand that this issue became very sensitive and that it's being observed closely in other countries, especially in the United States. And we are not just such fools as to let some of our opponents have a case in hand to criticize us.

SGR: You would be concerned about the propaganda opportunities?

Makarov: We are very much concerned about the propaganda opportunities, and, again, as far as our

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...Assessment of Reagan's R&D Policies

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constitution is concerned, there is no provision for treating some nationalities differently from the others...We are not inclined to deny Jewish citizens their rights.

SGR: You are a veteran observer of the American scientific scene. What are some of your impressions of what's happening to science and technology under the Reagan Administration? What are you reporting back home?

Curbs on Visitors

Makarov: [The Administration] is trying to deregulate American science, trying to increase the role of the private sector at the expense of an active role on the part of the Administration, and it's my impression that, in this respect, the role of the Science Adviser to the President has been decreased and now limited to, let us say, some advisory functions. The role of a number of governmental agencies, agencies which used to be in the forefront of shaping the policy in this field, like, for example, NASA or the Department of Energy or National Science Foundation, are being, again, decreased from the point of view of very active participation in the formulating of scientific goals. It's very difficult for me, because a lot of people in this capital are hesitant to express themselves as far as what is going [on in] science and technology in the United States...Nevertheless, it's my belief that, being very much concerned about the productivity of American industry, the government is trying to implement certain measures, like tax reform, deregulation procedures, in order to interest American industry to pay more attention to science...But I understand that there is a certain awareness that those measures are not going to be effective.

I remember that the late Arthur Bueche [GE Senior Vice President who served as a science adviser to the Reagan presidential campaign and transition] came up with figures showing that all those measures would result in approximately $3 billion saved for American industry. And it is less than one percent of the money spent by industry for research purposes. It's too small for them to feel interested to implement certain results in this field...

What I'd like to point out is that I am dismayed by this campaign, reported in the American press, of so-called academic freedom versus national-security interests. It's interesting to watch, but for me as a guest of this country, I'd rather not criticize the situation. Nevertheless, I'd like to comment on some of the aspects. It's interesting to know that this campaign started, or was coincidental, with certain conscious efforts or just by coincidence, with this phenomenal case of this Soviet scientist by the name of [Nikolay V.] Umnov [a robotics specialist] who wanted to visit certain American universities to study. The whole case was blown out of proportion [a reference to the State Department's insistence that Umnov's access to some advanced research be restricted; Stanford University refused to accept responsibility for monitoring the visitor's movements, and the National Academy of Sciences—sponsor of the visit—last week described the proposed restrictions as "difficult or impossible to enforce" and asked the State Department to reconsider the rules.] Why was such an insignificant case raised to the level of a threat to the national security? It is interesting to see how certain people tried to give the impression to the public at large. It was described that Umnov is engaged in a field of research that is very sensitive to the United States, automatic control and robotics. But I'd like to point out that even his future hosts at Stanford and Wisconsin University in a sense ridicule the subject of threats [because of] the fact that in this field, the Soviet Union did a kind of pioneering work, and that it will be advantageous for this country for Umnov to appear on the campuses.

What I'd like to point out is that to try to directly relate the phenomenon of the free exchange of scientific ideas with a so-called potential threat to national security is very ungratifying and it can be detrimental to American scientists, too. It's very fashionable to present our exchanges as a kind of a one-way street, but a lot of knowledgeable people know otherwise....We have [science and technology exchange] agreements, eight live agreements, that were created and signed, on the American side, by the President. So, why are some people trying to create an impression that the whole thing was a mistake?...Before the agreements were signed, they were scrutinized as to their usefulness to the country...A large segment of American scientists are concerned about the fate of the exchanges...If we terminate the agreements, it will be very deplorable and painful for the Soviet Union, but maybe the same feelings are going to be shared in this country, too.

Hasn't Visited Keyworth

SGR: Have you had an opportunity to meet with Dr. [George] Keyworth [Reagan's Science Adviser] or Dr. [John] Slaughter [Director of the National Science Foundation], or other senior research officials of the Reagan Administration?

Makarov: I've met Dr. Keyworth at some social gatherings...and we had a chance to exchange certain words. I understand that he knows of my existence, he understands who I am. But, unfortunately, at this stage, I have not been able to speak and pay a visit to Dr.

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National Labs Undergoing Tough Scrutiny

Sticking close to its ideological principles, the Reagan Administration has organized a major review to redefine the role of the national research laboratories supported by the Department of Energy.

The full results will not be known for several months. And any major change in direction will depend partly on how Congress treats Mr. Reagan's proposal to shift energy research to the Department of Commerce, an increasingly unlikely move, given growing support on Capitol Hill for the creation of a new, independent agency if DoE is broken up. Already, however, both budget cuts and new guidelines being used within DoE indicate that the Administration is keen to set limits on the extent to which the laboratories are allowed to compete either with universities or with the private sector.

Excluding specialized institutions such as the high-energy physics laboratories at Stanford University and Batavia, Ill., the 12 "multi-program" laboratories supported by the DoE have a total combined budget of $2.8 billion in the current fiscal year, a figure which represents just under half the total R&D budget of the Department. Those studying their future include both the Office of Science and Technology Policy (OSTP)—whose Director, George A. Keyworth, spent most of his professional career at the Los Alamos National Laboratory—and a special review panel set up at DoE's request by the Department's Energy Research Advisory Board (ERAB).

The interim report of the latter is due March 1. It is expected to lay out various options for the Department, from merely opening up the laboratories to greater interaction with universities and private industry, to the possible need to close one or more of the laboratories. OSTP's review will take a little longer, since it is part of a broader study of all laboratories supported by the federal government—the first such review, according to OSTP officials, in 20 years.

Adapting to budget cuts is currently the most immediate problem facing the laboratories. The 1982 budget for the 12 multi-program labs is down $62 million from its 1981 total, a "real" reduction of about 10 percent at the current inflation rate. The cuts have not been absorbed uniformly, since they have been made according to a policy of emphasizing nuclear weapons and nuclear energy research, with major reductions in support for technologies such as solar and fossil fuels.

As a result, the two major weapons laboratories have done relatively well. Figures prepared for the ERAB panel by a research team at the Oak Ridge National Laboratory indicate that the Los Alamos National Laboratory and the Lawrence Livermore National Laboratory, both run for the DoE by the University of

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Keyworth. Well, it's of course up to him to decide whether to accept me or not.

SGR: Have you requested a meeting?

Makarov: No, I have not requested a meeting, But, frankly, I just can feel his attitudes, and I'm not going to be rebuffed....A kind of indicator happened just about a week ago and, frankly, it was a kind of deplorable fact. I was host to one of the vice presidents of our Academy of Sciences, Academician [Eugene] Vilkhov. I decided to pay a courtesy visit to Dr. Keyworth, no more than that. And I got in touch with Dr. Keyworth's office and inquired about the possibility of arranging such a meeting. Dr. Keyworth, I was told, was busy, and refused, let us say, to see Academician Vilkhov...Frankly speaking, I understand Dr. Keyworth's position and maybe his awareness of the state of affairs between the two countries. Maybe it's not wise to meet an official from the Soviet Embassy. It's okay with me. Nevertheless, I presume that on the occasion of the visit of such rank from the Soviet Union, Dr. Keyworth will find time just to speak and socially just meet this gentleman.

[In response to an inquiry, Keyworth told SGR that he was unaware of the request and that it may have come to his office while he was out of town. He said, "I do not have a policy of thou shalt not talk to Russians," but that he had not, except socially.]

SGR: Have you had an opportunity to hold business meetings with any senior research officials of this Administration?

Makarov: I am accepted in the circles of, let us say, the middle level. For example, there are certain programs of public relations—let's say NASA or the National Science Foundation conduct certain briefings for the scientific attaches...

SGR: Had you met with Dr. [Frank] Press [presidential science adviser] in the Carter Administration?

Makarov: Yes, I was lucky and I had several business meetings with Dr. Press and once I was invited to the Office of Science and Technology Policy in the Old Executive Office Building and had a very good conversation with one of his associates. That has not happened in this Administration. I am in a way excommunicated and kept at a distance. It is up to the host country to decide what to do with the Science Attache of the Soviet government. Nevertheless, I would like to have a bit more attention on the part of official Washington concerning what I am doing, what I would like to do and what we would like to do....

...Budgets Cuts Forcing Staff Reductions

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California, are planning for budget increases of 11 and 16 percent, respectively. In contrast, other DoE labs are being required to absorb significant cuts, already resulting in the layoff of technical and scientific staff. The Argonne National Laboratory, near Chicago, for example, has had to reduce its budget from $253 million to $190 million between 1981 and 1982; Oak Ridge's budget goes from $337 million to $284 million.

Across the board, the Department reports that cutbacks have already been made of about 10 percent in energy-related programs since 1980, with a comparable decrease in manpower. In some cases, those displaced by the cuts have been able to find positions on weapons-related projects. Others have been less lucky. Both Argonne and the Brookhaven National Laboratory have already experienced major reductions in staff. Even laboratories such as Lawrence Livermore, which has so far been able to absorb staffing cuts in some of its programs through attrition, is said to be rethinking its policies in terms of the lack of flexibility that this strategy permits.

More is at stake, however, than merely a reflection of the Reagan Administration's budget or energy research priorities. For the laboratories are becoming front-line victims of the conflict between the research policies of the 1960s and 1970s and those being established for the 1980s. The former were based not only on an expanding research effort, but also the broadening acceptance of a legitimate intervention by the federal government in the development stage of a range of new technologies. Now there is a serious questioning of whether, apart from exceptional circumstances (such as fast-breeder nuclear reactors), the government should be involved in this type of activity at all.

The national laboratory system was set up in the post-war period, based largely on experience gained with the Manhattan project, and was initially intended primarily to support research into both the military and civilian uses of nuclear energy. Since then their role has been gradually expanded as successive administrations have sought to use research programs of the laboratories as policy instruments.

In 1967, for example, amendments to the Atomic Energy Act of 1954 allowed the laboratories to carry out environmental research, a reflection of growing public concerns about the environmental effects of radiation. Amendments added in 1971 enlarged the scope of their responsibilities by allowing the laboratories to conduct non-nuclear research and development, both for the Atomic Energy Commission and for other federal agencies. Finally, under the Stevenson-Wydler Act, passed by Congress in 1980 and approved by the Carter Administration, the laboratories were given a role in the innovation debate through authorization to assist the transfer of research results to the private sector.

Even before the Reagan Administration came to power, however, there was a growing feeling in Washington that the laboratory system had become too big and unwieldy. Between 1971 and 1981, for example, the total staff of the 12 multi-program laboratories rose by 43 per cent, to a total of almost 50,000. Mr. Reagan's election provided an additional impetus to efforts to reform the laboratory system, particularly since one of its fiercest critics was the late Arthur Bueche, then Senior Vice-President for Corporate Technology at the General Electric Co. and a Co-Chairman of the President's post-election Task Force on Science and Technology.

The depth of Bueche's feeling was evident at a Congressional hearing held last July by the House Science and Technology Committee's subcommittees on Energy Development and Energy Research. Bueche questioned whether it was appropriate for the laboratories to engage in research and development which, he said, should properly be the responsibility of the private sector, and whether federal support for the laboratories was actually undermining private initiative in such areas.

"There are sometimes good arguments to be made for using the national labs to get a fast start or to take advantage of a unique competence, or because of a lack of private capabilities," he told the hearing. "On the other hand, if the capability is needed in the private sector, the time required to establish it may well be less than that lost in trying to transfer any resulting technology to commercial use and private benefit. Unfortunately, we appear to be moving in the wrong direction."

Bueche's complaints were acknowledged at the hearing by Keyworth, in his first official appearance as a witness before a Congressional committee. Keyworth argued for maintaining the laboratories as strong and active research centers. "If you make the laboratories become merely service centers, you will lose the best talent the labs possess, because the most creative scientists do not wish to operate and will not operate in a service mode," he said. At the same time, Keyworth acknowledged the importance of taking into account the main criticisms raised by Bueche and others.

The impact of industry's arguments were already visible in policy guidelines contained in a memorandum to all lab directors last May from Acting Under Secretary of Energy Raymond Romatowski. This set out the general philosophy that the DoE's interest in energy research should focus on "longer-term, high-risk R & D

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...DoE Outlines Possible New Roles for Labs

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with potential for high payoff," and that the Department's involvement "normally should not continue beyond 'proof of concept' at the process development unit scale."

Within this context, Romatowski defined the two principal aspects of the role of the multi-program national laboratories as follows: "1) Conduct basic and applied research comprising needed technology-base activities that the private sector is ill-equipped or not motivated by profitability considerations to pursue; and 2) undertake technology development in promising areas beyond the private sector's capability and interest."

The memorandum established a role significantly different from that of the 1970s, when, spurred on by the newly created Energy Research and Development Administration, the labs expanded their involvement in energy R&D in both breadth and depth, in some cases virtually up to the commercialization stage. As a preliminary draft of the ERAB panel report put it, "the policies of the new administration, expressed through budgetary retrenchment in areas deemed within the responsibility and capability of industry, caught the laboratories overextended in areas no longer considered appropriate for federal support."

Finding ways of molding the laboratories to the politics and climate of the 1980s is the task that has been assigned both the ERAB panel and the OSTP. The first was set up at the request of Deputy Energy Secretary W. Kenneth Davis, who, in a letter to ERAB chairman Louis Roddis at the end of September, expressed his concern that, under the new priorities and the budget limitations facing the Department of Energy, "the scientific and technical strength of the laboratories may be eroded and that their ability to contribute to the nation's long-range energy needs may be diminished.)

A meeting of the ERAB panel, held in Washington last week to put the finishing touches to its interim report, encountered both consensus that such a review was timely and necessary, and disagreement over how far the dominant philosophy behind the labs' existence should be changed. Among those seeking a substantial revision in the laboratories' mandate was Roland Schmitt, Vice-President for Research at General Electric and hence a past colleague of Bueche, who argued strongly that a plan for the future of the laboratories should be based primarily on those aspects of their contribution to the nation's energy research that was unique, such as the maintenance of large-scale research equipment.

Others suggested a more moderate approach, emphasizing the quality of the research done at the labs as much as its uniqueness, and pointing to factors which currently inhibited the labs from playing a more active role in supporting the activities of the private sector. Herman Postma, for example, Director of Oak Ridge, pointed out that the labs currently lack the same incentive as universities to sell their research results to industry since they are not able to keep the income on patents based on their own research, which is now allowed universities under the amended Patent Act.

Others raised a concern that too aggressive an attempt to hand over to the private sector some of the functions performed by the laboratories would, in the absence of specific legislation, be a denial of the current responsibilities placed on the federal government to manage the laboratories and their research programs as a national trust. "The situation is that the Congress has decided that there is a public interest to be served, which is to have a government agency responsible for trying to come up with solution to energy deficiencies," said panel member William Carey, Executive Officer of the American Association for the Advancement of Science.

Carey has suggested that, as an alternative to divesting themselves of major research responsibilities, the labs might be transformed into national service facilities by organizing them as quasi-public corporations. The recommendation is one of several "alternative strategies" currently contained in the panel's draft interim report.

The fate of the recommendations is difficult to predict. OSTP officials say that both the interim report and the final report—which will include a detailed assessment of a range of factors relevant to the labs' futures, including a comparison with the experience of several foreign countries—will play a significant part in their own review. Indeed there is a suggestion that the ERAB report may be used as a model for the OSTP as a way of analyzing the work of laboratories run by other federal agencies.

There is little doubt that the strategic role of the laboratories in the development of new technologies will be diminished, a process that has already begun to happen; nor is there doubt that there will be further cuts in several program areas—cuts of the same magnitude as 1982 are expected for the 1983 fiscal year, with at best constant funding in succeeding years. More dramatic steps, however, such as actually closing down a laboratory, are likely to meet fierce resistance in Congress, where many laboratory directors have cultivated powerful political supporters among members as well as influentially placed chairmen of various committees.—DD

R&D Warms to an Old Friend on Capitol Hill

The series of hearings that the House Science and Technology Committee has launched on "US Science and Technology under Stress" is shaping up as the principal public forum for the outs to batter the Administration's research and development policies. And it's also cementing the generally congenial, though now and then rough, relationship between the Committee and the institutions that speak for science in Washington.

The first hearing, December 10, produced presidential Science Adviser George A. Keyworth; his predecessor under Carter, Frank Press, now President of the National Academy of Sciences, and H. Guyford Stever, who served in the White House post under Gerald Ford (SGR) Vol. XI, No. 21).

Like well-rehearsed performers, Keyworth and Press restated the themes that they have been sounding for several months: R&D is in good shape, but austerity will make it even better (Keyworth); Reagan is squandering a vital national resource to save minor sums (Press). As for Stever, he gently concluded that the Reagan budget cuts have gone a bit too deep and that R&D and its supporting academic institutions need help. The hearing was short and fast, with little time for questioning, but a less-hurried pace lies ahead in the next round.

Scheduled for February 2, 3, and 4 (with more to come later), round two will include as witnesses D. Allan Bromley, immediate past President of the American Association for the Advancement of Science, a physicist who has long been sounding alarms about federal neglect of his discipline; Nobel laureate James Watson, who periodically scathes government parsimony in the life sciences, and a panel of university presidents, headed by David Saxon, of the University of California, who can be expected to excoriate the Administration's treatment of higher education.

In their dismay over the Administration's treatment of the nation's intellectual resources, the Committee and the scientific community share an interest that works out nicely for both sides. The Committee, like any Congressional committee, is looking to make its mark, and for this purpose, needs issues and articulate witnesses. The researchers and university chiefs, rocked by Reagan's assaults on the agencies that support their institutions, need a conspicuous forum, and, finding no sympathy in the White House or the Republican-controlled Senate, are glad for what they can find in the Democratic House.

Though the Committee, chaired by Don Fuqua, of Florida, has generally been friendly and supportive toward federal research budgets over the past decade, the elders of the community heretofore didn't rank it high their political scale. The reason, quite simply, is that the Committee is confined to authorizations and oversight — mainly for the National Science Foundation, NASA, and the National Bureau of Standards. The more important power — to vote money — rests with various appropriations subcommittees, in which research-related items are such small pickings that the members tend to rush through them. A place to howl and be heard is what the elders of science require in present circumstances, and the best available is the House Science and Technology Committee.

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